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REMARKS

Claims 1-16 and 19-21 are pending. Claims 1-4 and 19 stand rejected. Claims 5, 6, 9 and 11-16 are allowed, and claims 7, 8, 10 and 20 are objected to as being dependent upon a rejected base claim, and are indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicants sincerely thank the Examiner for allowing claims 5, 6, 9 and 11-16, and for indicating the allowability of claims 7, 8, 10 and 20. Claims 7, 10 and 20 are amended to be in independent form, and the Applicants believe claims 7, 8, 10 and 20 are now in condition for allowance.

Claims 1 and 19 are amended to recite a first stable position and a second stable position (*Emphasis added*). Claims 7, 10, and 20 are amended to include the limitations of the base claims from which they currently depend. Claims 1, 5 and 9 are amended to correct the omission of the colon after the preamble of the claim. These amendments do not add new matter. Support for the amendments to claims 1 and 19 is found in Figures 2A, 2B, 3A-3C and 5A-5D, and the associated portions of the written description, in as-filed claim 20, and elsewhere in the specification.

Rejections Under 35 U.S.C. § 103

Claims 1-4 stand rejected as being unpatentable over U.S. Patent No. 5428,259 by Suzuki (hereinafter "Suzuki") and JP 2000-266777 by Sugiyama (hereinafter "Sugiyama"). The Examiner states that Suzuki teaches an electrostatic actuator with variable thickness electrodes (Fig. 3), and that the shape of the electrode determines the performance of the actuator. The Examiner further states that Suzuki does not teach thick portions on the distal end and thin portions near the base, and that Sugiyama teaches thick portions on the distal end and thin portions near the base to reduce capacitance variation rate. The Examiner asserts that it would have been obvious to one of ordinary skill in the art to construct the actuator of Suzuki with the thick/thin portions of Sugiyama. The Applicants respectfully traverse this rejection.

Claim 1, as amended, recites, among other elements, a spring disposed between the base and the movable element configured to provide a potential energy maximum

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between a first stable position and a second stable position of the movable element relative to the base.

Suzuki discloses a vibration-type sensor, but neither Suzuki nor Sugiyama discloses or suggests a potential energy maximum between a first stable position and a second stable position of the movable element relative to the base. Suzuki states that the movement of the movable electrode toward the fixed electrodes is balanced by the opposite force given by the stiffness of the folded beams 15 (Col. 11, lines 10-13). In relation to Fig. 4, Suzuki states that when the movable electrode 40 moves in the right and left directions, the folded beams 44 and straight beams 43 tend to restrain the movements and return the movable electrode to its original position (Col. 11, lines 52-56, *emphasis added*). The recited potential energy maximum and first and second stable positions are not found in Suzuki. Modifying the vibration-type sensor disclosed in Suzuki to include the recited potential energy maximum and first and second stable positions would change the operation of the vibration-type sensor. The Applicants believe that Suzuki teaches away from the present invention by disclosing a spring that returns the movable electrode to its original position.

Claim 19 stands rejected as being unpatentable over U.S. Patent No. 6,000,280 by Miller et al. (hereinafter "Miller"). Miller discloses a torsional cantilever used as a force scanner in scanning probe microscopy, and that includes a sensing tip 23 tapering to a diameter of one atom at its end, and has a counterweight 26 so that rotation of the arm 12 is more responsive to forces applied to the tip 23 (Col. 7, lines 20-50). Claim 19, as amended, recites, among other elements, a movable element configured to move from a first stable position to a second stable position relative to the base, and that the movable element is pulled toward the base when an electric potential is applied between the fixed finger and the movable finger. Miller does not disclose these elements; therefore, the Applicants believe that claim 19 and all claims that depend from claim 19 are allowable.

Conclusion

The Applicants recognize that the Examiner has discretion in entering an amendment after final rejection, and believes that the present amendment is sufficiently focused to be appropriate for entry. The previous amendment is believed to have been

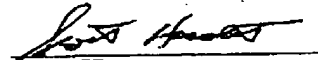
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fully responsive to the rejection, and it is believed that the Examiner's response to the previous amendment set the stage for Applicants to respond directly to the Examiner's concerns. This amendment is not believed to require additional search or raise new issues and entry is respectfully requested to provide the Applicants a full and fair hearing.

In view of the foregoing and upon entry of this amendment, the Applicants believe all claims pending in this Application will be in condition for allowance, and that the Applicants are entitled to the claims in accordance with the Title 35 of the United States Code and Art.1, §8, cl.8 of the Constitution of the United States. The Applicants respectfully request reconsideration of all pending claims, the withdrawal of all rejections, and the issuance of a formal Notice of Allowance at an early date.

If the Examiner believes this amendment does not put all pending claims in condition for allowance, the undersigned invites the Examiner to telephone him at (707) 591-0789.

Respectfully submitted,



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